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## ABSTRACT

In the first section of this report, summaries are presented of the papers delivered at the General Session of the meeting of the Southwest Park and Recreation Training Institute. The topics were: (1) Risk Aspect of Parks and Recreation; (2) All You Need To Know about Boards and Commissions, but Were Afraid To Ask; (3) Leadership and Organizational Structure; and (4) Murphy's Law of Thermodynamics and Other Rules for Dealing with the Real World. The rest of the report is comprised of 18 summaries of workshop topics that dealt with practical advice, anecdotes of the various problems faced by recreational directors, and suggestions for improving the appearance of parks and recreation areas. (JD)

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**Proceedings of the 32nd Annual  
SOUTHWEST PARK & RECREATION  
TRAINING INSTITUTE  
1987**

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Lake Texoma Lodge  
Kingston, Oklahoma

SP 029 714

32nd Annual

SOUTHWEST PARK AND RECREATION TRAINING INSTITUTE

February 1, 2, 3, 4, 1987

Lake Texoma Lodge  
Lake Texoma State Park  
Kingston, Oklahoma

OBJECTIVES:

Fostering, gathering and disseminating of information with reference to parks, and recreation facilities, grounds, programs and objectives. To work with all people, particularly of the Southwest area, to encourage a greater degree of professionalism among those in the park and recreation profession. To foster a spirit of cooperation between all agencies related to public park and recreation programs. To encourage and support those in colleges which train people in park, recreation and related fields.

IN COOPERATION WITH:

Oklahoma Tourist and Recreation Department

CONDUCTED BY:

Department of Park Administration and Landscape Architecture  
Texas Tech University  
Lubbock, Texas 79409  
Bill Kitchen, Program Coordinator

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SOUTHWEST PARK AND RECREATION TRAINING INSTITUTE

1987 AWARDS

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20 YEAR ATTENDANCE.....B. Dan Camp

10 YEAR ATTENDANCE.....Jack O. Ashworth  
Paul Boorman  
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Don Wendell

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Mark L. McHenry, Kansas City, Missouri  
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Category II, Narrated Slide Show

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Phil Thornburg, Kansas City, Missouri  
Bill Kitchen, Nature Conservancy  
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Category III, Show and Tell

\*Bonnie Lutz, Dallas, Texas  
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\* Denotes winner in each category

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## 1987 GENERAL SESSION PRESENTATIONS

Max Wiens, President, Assistant Director of Parks and Recreation Department in Tulsa, Oklahoma, opened and presided over the General Session.

The welcome to Texoma was given by Lee Carvel, Hulbert, Oklahoma.

The keynote speaker was James C. Kozlowski, Attorney for the National Recreation and Parks Association. His presentation dealt with the risk aspect of Parks and Recreation.

The risks involved in Parks and Recreation is becoming more of an issue in today's society. Approximately twenty years ago there was little worry due to the protection under the sovereign laws of immunity. But in modern times, public agencies are no longer protected by this security blanket. This necessitates the need for more managerial awareness of the problems involved.

Mr. Kozlowski split the risks up into two categories. The first was land related risk. The risks involved here were due more to the conditions on the land more than the lack of supervision. The second risk is water based. This is a serious problem which occurs mainly from shallow water diving incidents.

He went on to explain some ways to avoid problems and lower the risks. A formula used to avoid risks is the "foreseeable risk vs. the necessary burden of precaution". This concept is one of finding the risk in advance then fixing the problem before an injury occurs. Agencies lose court cases by knowing the existence of a risk but not doing anything to correct it. In short, no burden of precaution is taken.

There are ways to take the burden of precaution on land related risks. Inspection is one way. This supplies you with the foreseeability of injury. It is noted that it is important to fix any possible problems but if it is impractical to do so, then you are required by law to provide warning. This takes a hidden danger and makes it known.

Adequate warning signs are required. Just a sign of warning can be a liability if it is not presented in such a manner that its message is adequate. Color, size, and location are all crucial elements.

Another way to take the burden of precaution on land is to reduce the scope of the invitee. For example, if the invitee is

encouraged or implied encouraged, then the parks are liable for the person's injuries on the park. The intent is to reduce the scope of the invitee to make them responsible for their own actions. Post areas of no trespassing, hours the park is open to the public, and limit access to dangerous areas.

To take the burden of precaution in water, post signs of warning or danger.

In many states, willful want and misconduct must be proven in order for the agency to be found liable. Negligence alone will not be enough.

In conclusion, Mr. Kozlowski pointed out, outside of the really catastrophic injuries, legal problems often start out as public relations problems.

The next presentation featured Ms. Jan G. Eckhardt, Park Board Member, North Jefferson County, Colorado. During Ms. Eckhardt's session she stressed getting to know your board personally. By acquainting yourself with your board, you will then know how to approach each one of them on the subject at hand. They are citizens just like you. By getting to know their personal interests, you will then know who to specifically approach on a particular problem.

Next you must sell yourself to your board. If your board members trust you and have confidence in you, they will get behind you and support you, and take care of your political needs. When you can get your board behind you, they, in turn, will work for you.

Get your board involved with your projects. To do this, talk to them in plain language, not in a lingo that they do not understand or you will lose them--they are not experts in your field. Be sure they know what their job is--specifically define it for them. Be sure to give them due credit where it is justified. Make sure they attend the meetings that they need to, and be sure they are on the committees that are most beneficial to you.

Last, but not least, do not forget your special interest groups. A special interest group could crucify you if you are not careful. They are a powerful political machine. Make sure they are satisfied with your involvement in their interests.

Make sure you choose your board carefully. A veterinarian can be influential with your zoo program. A real estate agent can be beneficial in obtaining land for new parks or recreational facilities. A travel agent can be of great use in obtaining lower rates on travel when your staff needs to attend conferences or visit other experts in their field.

The flow of information between your staff and board members must be open. Do not ever make them feel intimidated or stupid. Do not find yourself becoming annoyed with their questions. Make sure they also do not feel obligated or put upon for a project. Remember they are volunteers with no monetary gain. They are there to serve their fellow citizens and for their own self-satisfaction.

Remember communication is your most important resource--use it with care and use it wisely.

Mr. Martin McIntyre, Chairman, HPER, Texas Tech University, gave a presentation on leadership and organizational structure. In 1983, the Public Agenda Foundation conducted a major survey of the American nonmanagerial workforce with the following results:

Fewer than 1 out of every 4 jobholders say that they are currently working at full potential.

One-half said they do not put effort into their job over and above what is required to hold onto it.

The overwhelming majority, 75 percent, said they could be significantly more effective than they presently are.

Close to 6 out of 10 workers believe they 'do not work as hard as they used to'.

Why are workers increasingly withholding effort from the job? The answer may be that leaders have failed to instill a commitment, a vision, a meaning, and a trust in their followers. Leadership in a democratic society is essential for the very survival of its social organizations.

The present state-of-the-art requires that universities examine leadership, management and organizational structure from every conceivable angle. Our libraries are full of the likes of Peter Drucker, Iacocca, Peters and Waterman, and Blanchard and Johnson. What does this mean? It does not suggest that our social and corporate organizations are leaderless, but there is a new wave of concern for the effectiveness of organizations which is directly related to the quality and style of its leaders and managers. In general, based upon our inability to compete in the foreign market place, the number of corporate mergers and takeovers, the increase in personal bankruptcies, and the flux experienced in public and higher education, the collective society "we" faces a serious problem.

Recent organizational scholars suggest organizations transverse along a life cycle similar to biological organisms. The stages are birth, growth, maturity, and revitalization or death. A relationship

exists between the life cycle stage of an organization and the type of leadership which will make it most effective at a particular stage.

The effectiveness of an organization relates directly to how the leader/manager responds to three components: demands, choices or discretion, and constraints. These change throughout the life cycle of an organization. It is possible that a leader could be very effective in dealing with the demands, constraints and choices in one phase of the life cycle and be less than competent when faced with decisions in another. The traits, skills and behaviors of the leader that are conducive to organizational success in one phase of the life cycle may be totally inappropriate in other phases. Leaders/managers should be selected on the basis of "best fit" with the present phase of the organization, or with that phase into which the organization is moving.

Two basic tenets underlie transactional leadership: contingent reward, and management-by-exception. Bass describes contingent reinforcement as "the leader and follower agreeing on what the follower needs to do to be rewarded or to avoid punishment. If the follower does as agreed, the leader arranges to reward the follower, or the leader does not impose aversive reinforcement such as correction, reproof, penalization, or withdrawal of authorization to continue." Contingent reward has a number of disadvantages. The most serious is the system is dependent on the power base of the leader. Another disadvantage is that punishment in any form is not likely to increase the follower's positive motivation, especially if people are expected to be innovative and creative.

Management-by-exception, the old adage "if it ain't broke, don't fix it", has as its focus negative feedback and contingent aversive reinforcement, that is control. The leader intervenes only when something goes wrong. As long as the follower meets expected performance standards and/or does not become the center of a crisis the mechanics of control remain tranquil. When something does go amiss, an outburst of emotional negative feedback is not unusual. This occurrence, when used to the extreme, is likely to be counterproductive. This type of management usually does not have a lasting motivational impact. When successful, employees fear having to face a reprimand and will make efforts to comply with clarified standards to avoid the negative consequences of failure.

Recent research efforts and scholarly publications have focused on transformational leadership. It is not a new concept, but only recently has it been examined in a systematic manner and applied to the environments of organizations. Its roots are embedded in Maslow's Hierarchy of Needs in that the leader attempts to expand the need level of the follower to a higher order, that is, from security

to recognition, or adding to recognition, the need for self-actualization. Two additional tenets underlie transformational leadership: raising the follower's consciousness about the importance and value of the outcomes (and how to reach the outcomes), and getting the followers to forsake their own self-interests for the sake of organizational needs. In other words, the transformational leader motivates followers to do more than originally expected. In the real world of work, the followers then become self-actualizers, self-regulators, and self-controllers.

In a study of 70 senior executives, Bass found descriptors of transformational leadership to include: "induced us to work ridiculous hours, tried to satisfy the leader's expectation, gave the leader all the support asked" of them and wanted to emulate the leader. In addition, the executives described the transformational leader as: a model of integrity and fairness; one who encouraged followers with advice; gave help, support, and recognition; was open; gave a sense of confidence in his/her intellect; was a good listener; gave autonomy and encouraged self-development; was willing to share knowledge and expertise; could be formal and would reprimand, if necessary; was informal and accessible, and much like a benevolent father. The three most important traits of a transformational leader are charisma, individual consideration, and intellectual stimulation.

When our social, governmental, educational and corporate organizations are examined, a question arises as to the "will to change" unless acted upon by a force sufficient enough to cause a crisis. Business failures, children foundationless in the basic skills of literacy, social agencies not meeting the needs of its constituencies, and government overspending are everyday newspaper headlines. Yet, there are many examples of corporate prosperity, of school districts increasing student test scores, of not-for-profit agencies involved in strategy planning and the delivery of increased services with decreased resources. The formula for successful organizations lies with its leadership, the right kind of leadership matched with the life cycle needs of the organization.

Mr. Charles Putnam, Vice-President of Sales for Weather-matic. Dallas, Texas gave a presentation titled "Murphy's Law of Thermodynamics and Other Rules for Dealing with the Real World". (This law, by the way, was written by the same Murphy of "If anything can go wrong, it will" fame.)

These two laws, with scores of others, are contained in a book called "The Official Rules". It is the definitive, annotated collection of laws, principles, rules and instructions for dealing with the real world.

Most everyone, during four or more years of college, were forced into contact with laws such as Charles' law, Boyle's law, Newton's law and others bearing such distinguished names as Ohm, Darwin, Einstein, Archimedes, and so on.

As new laws were discovered and published and accepted by the scientific community, people outside the hard sciences, myself included, felt that a major injustice was being forced on civilization.

Not only were the soft sciences, humanities and workaday folks excluded from the business of lawmaking but there was a demonstrable prejudice at work. All these big name scientists were busy describing a perfect and ordered universe. As most are aware, it is neither perfect nor very orderly.

What natural, scientific or physical law can adequately explain, for example, why a half million people would move to the Palm Springs area of California, a desert by the strictest definition, and then complain because there is so little water and what there is is too expensive.

It cannot be proven, but Mr. Putnam firmly believes that the laws of Murphy, Finagle and others in this book have helped more people get through crises, deadlines, bad days, the final phases of projects and attacks by inanimate objects than natural laws, pep talks or the invocation of traditional rules.

It is true that if the paper boy throws the paper on the roof or in the bushes for five straight days, it can be explained by Newton's Law of gravity. It takes Murphy, however, to explain why it happened.

When asked to speak on Water Conservation, he thought at once of Murphy's Law of Thermodynamics which says: "Everything gets worse under pressure".

Water shortages and the basic philosophy of water conservation have been with us for centuries. History leads us to believe that Noah was the first serious proponent of water conservation. Water shortages, of course, came much later.

Water conservation really came into vogue in 1974 in Northern California. Major shortages of rainfall and snow pack in the Sierra Nevadas for three successive years caused major problems in the seven counties surrounding San Francisco.

The green industry associations such as C.L.C.A., N.C.T.C. mobilized early and developed excellent programs which they proposed

to the various water boards, utility districts and elected governments.

These proposals were ignored in favor of such mind bending ideas as billboards and signs on busses encouraging the population to conserve water by, for example, flushing toilets only under certain conditions. Picture, if you will, billboard saying, "If it's yellow, let it mellow; if it's brown, flush it down".

In the meantime, the irrigation segment of the green industry was trying desperately to inform the public of ways to conserve water while protecting their landscape investment.

As the situation grew worse, the Marin County Board of Governors, the East Bay Municipal Utility District (East Bay MUD) and a couple of smaller governmental agencies placed absolute bans on outside watering as well as the installation of irrigation systems. They publicly accused irrigators of being the real source of the problem.

This not only proves Murphy's Law of Thermodynamics but also, Ledge's Law of Fans:

"No matter where you stand, no matter how far or fast you flee, when it hits the fan, as much as possible will be propelled in your direction. Almost none will be returned to the source."

In the years following the Northern California drought, several major areas of the United States suffered severe water shortages. Some of these areas seem highly unlikely as candidates for conditions that would create the need for severe water conservation programs. Areas such as Chicago, the Pacific Northwest, New Jersey and Long Island are examples.

Add to these Denver, Colorado, 65 communities in Texas in the past three years, Great Britain and most of Western Europe in 1982-83 and it becomes obvious no one is immune.

In most cases, domestically, local associations and trade groups, acting either individually or in concert, attempted to minimize the impact on the green industry by suggesting programs for both the public and private sectors. These were intended to improve communications and educate not only for the present but the future as well.

The failure of these ideas to affect the thinking or actions of our elected officials proves two important laws from the Book of Rules:

1. Martin's Law of Communications - "The inevitable result of improved communications between different levels of society or industry is a vastly increased area of misunderstanding."

and

2. Hacker's Law - "The belief that enhanced understanding of the problem will necessarily stir an organization to action is one of mankind's oldest illusions."

Two of the communities faced with water shortages caused either by supply or delivery problems have gone quietly and efficiently about their business. Both Denver, Colorado and Austin, Texas have in place water rationing programs that automatically go into effect in the very early stages of the problem. Hopefully, many other areas will follow their lead.

The green industry, finally realizing that Marshal's Laws of Perceptual Obfuscation are true and immutable, has taken another tack. Those laws are:

1. "Nobody perceives anything with total accuracy."
2. "No two people perceive the same thing identically."
3. "Few people perceive what difference it makes...or care."

The concept of Xeriscaping, conceived and first applied in Denver, is an example.

On the educational front, our impetus has changed from almost pure product and basic hydraulics ten years ago to much greater emphasis on product application and, of equal importance, to maintenance procedures.

Special classes such as Weather-matic's design training school and association conferences such as those sponsored by the Irrigation Association and the Texas Turf Irrigation Association increasingly emphasize conservation practices.

The Texas Turf Irrigation Association has established a Water Conservation Committee. Their first act was to develop criteria for water conserving design criteria. This is the first of three pamphlets which will ultimately cover installation and operation as well as maintenance--all aimed to water conservation. It is the intent of the T.T.I.A. to disseminate this information as far as their funds will carry them.

Those involved in the manufacturing aspects of the irrigation industry are far more cognizant of the need to conserve water. Improvements and modifications in what might be considered more tra-

ditional equipment, have resulted in products that are much more efficient and far less generous in terms of water consumption. Low precipitation spray and rotary heads that operate at lower pressures conserve not only water but energy, as well.

The irrigation industry is making great strides in improving the uniformity of sprinklers. Through the Irrigation Association, the industry has, in fact, funded an independent facility for testing products. This is the center for Irrigation Technology at California State in Fresno, California. Under the able direction of Ken Solomon, C.I.T. will be of immeasurable assistance to all manufacturers in testing and improving our products.

Both pop-up spray and rotary sprinklers are now offered with built in check valves, as well as electric control valves with built in pressure reducing devices.

Nowhere have irrigation equipment manufacturers been more creative than in the area of controls. When it was finally realized that, most of the time, solid state devices could exist in an irrigation environment, entirely new possibilities in control versatility were opened.

Multi-station, multi-program controls are now available that allow methodical control, extremely accurate timing and permit the most efficient use of irrigation time available. The added benefit is that, in most cases, they are less expensive than a corresponding electro-mechanical control.

They are not for everyone, however, Remember that good irrigation and conservation practices are dependent on five considerations: Design, Installation, Equipment, Operation and Maintenance.

When determining the products that will be used, consider also the people that will operate and maintain it.

The last two or three years have seen an absolute explosion in the use of computers for irrigation control. Weather-matic does not manufacture a computer system; however, they do sell such a system made by Motorola. Computers imply ultimate in control flexibility, measurement and safety.

If one has a large enough facility and enough money and is not intimidated by a keyboard and an almost endless potential of programming options, a computer system may be just the thing.

It is strongly suggested, however, that before you listen to a salesman from Weather-matic--or anyone else--presenting his or her computer system, you recall Kasavana's Law of Computer Selection

(Kasavana is a Professor of Computer Science at the University of Michigan): "It is not that computer sales people are unknowledgeable, it's that most of what they know is just not true".

Many are feeling the impact of the lethargic economy in the area from which this group is drawn. Certainly the lack of capital funds for expansion, budget and payroll cuts and the underlying anxieties that go along with those depressing conditions are of immediate concern. Those conditions, however, are temporary. Our limited water supply is permanent.

You are the professionals that this industry must look to for help and guidance for the future. Together, all of us in the green industry, from both the public and private sectors, must take the forefront in assuring that our children, grandchildren--even our great-grandchildren--have adequate facilities in which to enjoy life. That means water.

Finally, we come to Boyle's Laws. This is probably not the 17th Century scientist who gave us Boyle's Law of Gases, but whoever this particular Boyle is, his ten laws will, if kept at the forefront of your thinking, minimize disappointment when things don't go exactly as planned:

1. The success of any project will be helped by prayer even if it's in the wrong denomination.
2. When things are going well, someone will inevitably experiment (detrimentally).
3. The product's deficiency will never show itself during testing.
4. Information travels more surely to those with a lesser need to know.
5. An original idea will never emerge from a committee in the original form.
6. When the product is destined to fail, the delivery system will perform perfectly.
7. If not controlled, work will flow to the competent person until he or she submerges.
8. The lagging activity in a project will invariably be found in the area where the highest overtime rates lie waiting.
9. Talent in staff work will recurringly be mistaken for managerial ability.

10. Clearly stated instructions will consistently produce multiple interpretations.

THE THERMAL RELATIONSHIPS AND BIOLOGY OF  
BOTTOMS, BAFFLES AND BACTERIA -  
THE CLIVUS MULTRUM

Bob Modlin  
Bill Wall

Many practical ideas are created each year that can economically cut corners. One such idea is the Clivus Multrum, a waterless composting system for use where toilet facilities are needed, but a water and sewage system does not exist. These systems are very cost-efficient because maintenance, operation and vandalism costs are less than those of a "flush system".

How does the Clivus Multrum work? All waste from toilets and urinals are combined with lawn clippings, leaves, sawdust, and other biodegradables. This then decomposes while baffles and air channels allow oxygen to enter the composting pile. Odor is eliminated because the ventilation does not allow air to go up through the toilet area from the composting pile.

Most bacteria require water to survive. So, since the Clivus Multrum is a waterless system, disease bacteria dies, while other bacteria is broken down and either turned into greywater or mixed with organic matter in the composts. This greywater, which has excellent quality compared to other water discharged into the ground, can then be used for irrigating plant material. Flower beds have replaced the conventional leach fields for the final treatment of greywater.

The main purpose for the Clivus Multrum is to keep wastes out of the ground. Through precipitation, runoff from buried sewage will result in contamination of water resources. So, instead of using septic tanks, wastes are treated and used as greywater to grow large plants or broken down and discarded later. The Clivus Multrum system has been approved by the National Sanitation Foundation: Standard No. 41 for Wastewater Recycle/Reuse Water Conservation.

When a Clivus Multrum is set up, nothing has to be taken out of the composting system for as long as three years. Then, only small amounts have to be removed. Also, when a shock load occurs (large amounts of waste in a short period of time) there is no damage inflicted on the system. However, if there are more people using the system than expected, additional systems can be added easily.

Clivus Multrum systems are also vandal-resistant, primarily because there is no odor. All waste is beneath the toilet with a fan directing air out of the system. The only way odor will occur is if

the waste is not deposited in the tank. Therefore, other precautions should be taken, such as a specialized wax on carpet and a wall sealer which will not let moisture soak through.

Research and experimentation continue. Water fountains, sinks, and even dishwashers are being tested. The Clivus Multrum is certainly an exceptionally well developed system. Over 500 are in operation in parks and public facilities across the country. With more Clivus Multrums purchased, the system may soon be the commonly accepted idea in toilet systems.

## MORE BUCKS FOR THE BUDGET

Mark L. McHenry

Mr. McHenry was invited to speak on how to obtain additional funds for your Parks and Recreation Department. He addressed six main areas:

- Problem Recognition
- Analyze Revenue
- Organize Political Support
- Launch Campaign
- Analyze Results
- Implementation and Evaluation

In first assessing its problems, for example, the Parks and Recreation Department found that boulevard fees had not been increased since 1925. Also, there had not been a general park maintenance assessment since 1925. Its manpower in 1966 was one man per 25 acres; at present, then, one park employee was responsible for 62 acres (mowing, snow, leaf and trash removal). There was not enough men to cover the parks and boulevards adequately.

The next steps to approach were as follows:

- a. Review your resource shortage
- b. Review your revenue shortage
- c. Discuss deferred maintenance
- d. Discuss those concerned with the problem
- e. Note grounds maintenance services

The area to be concerned with next is to look at your present revenue. Take a look at you present source of funding and outline the areas of concern. Identify alternatives next. After these have been identified, choose which of these you would like to approach. Mr. McHenry realized an increase in user's fees, front footage increases, and a city motor vehicle sticker increase. Determine the minimums and maximums of any potential increase and decide on the increase most appropriate.

Organize the political support you will need to get these increases voted in by the public. With your political support:

- a. Discuss the benefits from the added revenue
- b. Discuss the financial impact to citizens
- c. Analyze ballot wording
- d. Gain support from political bodies.

Now launch your campaign. Form organizations that can help you. Hiring a professional consultant can be very beneficial. On the campaign trail, have brochures, films, handouts, radio and television advertisements. Organize neighborhood meetings and question and answer meetings.

After the campaign review the results. Look for your strengths and weaknesses and adjust your maintenance plan with your results, then the implementation and evaluation phase comes in. First start your maintenance program and once again look at your strengths and weaknesses and monitor the program. Then, make the necessary adjustments to get the most out of your new revenues.

## VOLUNTEERS, A NEW PERSPECTIVE

Don Lindley  
Eddie Hueston  
Carl Gardner

The impact of volunteers in the United States is staggering and many public and voluntary agencies rely on the manpower of volunteers. We all know this from our own efforts to recruit, train, supervise and recognize the efforts and services rendered by a volunteer.

Volunteers today are more sophisticated; therefore, they require and need different management and supervision. At the same time, agencies' requirements and needs have become more stringent and there is a greater recognition of the impact a volunteer can have on a child or adult.

An agency which has established a solid volunteer program may need to continue evaluating the effectiveness of the volunteer in the agency's programs. A couple of examples may be useful: the volunteer who has been coming to the agency for a long period of time and is content to do the same job assignment without realizing the job is no longer contributing to the agency; or the volunteer who comes to the agency and is working with a group whose members are violating the rules and regulations and is unable to lead the group with the proper instructions. Two notions are apparent. In the first case, the agency may not be monitoring the volunteer or has tried to and has given up to let the volunteer do the "busy work". The latter situation may be a lack of supervision, training, or orientation to the agency as to what needs to be done and the level of performance required. In many agencies, lack of training the volunteer for a specific assignment becomes a real problem.

Most people see the volunteer as a representative of the agency both at the agency and in the community. This means the volunteer impacts on the agency and in the community. The development of a strong orientation/training program is imperative to deal with the proper placement of the volunteer.

There are several groupings of volunteers: those who want to serve as direct volunteers and those who would be indirect volunteers. Direct service volunteers include all those who are in the agency or are part of the program providing services which the public sees or interacts with in some manner. Indirect service volunteers include those who work behind the scenes of the agency and may be recognized only by few within the agency or by the public providing a service function to the agency.

Some suggestions may help us to rethink the volunteer as an integral part of the agency:

1. Job descriptions with current updating on a regular basis.
2. Continual training and motivating as volunteers suffer burn-out just like staff and they need to have positive reinforcement.
3. Recognition of people and groups on a regular basis with staff providing feedback to the volunteer.
4. Monitor/supervision of the volunteer so the volunteer knows you understand and care what he or she is doing.
5. Terminate volunteers who no longer are able to function within the agency. There is nothing worse than a volunteer who is undoing what the agency is attempting to accomplish.

Two successful cases concerning the use of volunteers are the U.S. Army Corps of Engineers Greers Ferry Lake Project and a work release program in Dallas.

The Greers Ferry Project was completed in 1964. The lake has 40,000 surface acres, 300 miles of shoreline, 15 parks with an annual visitation in excess of 5,000,000.

By 1970 the visitation had reached 2,500,000 visitors and the lakeshore was badly littered. The Corps did not have the funds or manpower to remove the litter. Volunteers, including their own employees, and the First Greers Ferry Lake and Little Red River Cleanup was held. Only a portion of the lakeshore was cleaned that year, but enthusiasm and volunteers have increased each year. On September 8, 1986, the 17th Annual Event was held. More than 2,600 volunteers cleaned the 300 miles of lakeshore, 25 miles of river and 40 miles of roads leading to the lake. Included were 600 Boy and Girl Scouts, civic clubs, schools, bass clubs, business, boat owners, marina operators, 140 Arkansas College freshmen, and private individuals. The cleanup started at 8:00 AM and was completed before noon. After the cleanup was completed, an afternoon of food, fun and festivities was enjoyed by the 2,600 who participated in the cleanup plus another 2,500 people, many of whom had provided other voluntary assistance.

The work release program within the Dallas Parks and Recreation Department included volunteers of a different nature. This was a two-year pilot project in which the volunteers were both males and females who had been incarcerated within the city jail for crimes of a misdemeanor nature. These people volunteered to work off their sentences at the rate of \$100 per day.

Volunteers started the day off with an orientation where they were informed of the rules of work and were issued clothes which were more appropriate for work and presented a quality appearance of the park department. The volunteers then went to work with either regular park crews or as special crews, where they performed tasks ranging from litter pickup to construction work.

Advantages of the use of these volunteers were that they set examples for regular park crews to work harder and provided a low cost way for the parks department to keep up with maintenance by saving over 7,000 hours of work. The main disadvantage was the city had to provide transportation and supervision.

Whatever way volunteers are used, they usually get the job done and save the agency money. Just be sure the agency expresses proper appreciation for a job well done.

INTER-CITY, INTER-GOVERNMENT COOPERATION IN THE DELIVERY  
OF PARK AND RECREATION SERVICES

Duane L. Polster  
Jim Fisher  
Don Wendell

The first speaker in this session, Duane L. Polster, Chairman and Assistant Director of Parks and Recreation in Amarillo, Texas, spoke about his park system and how if a school bought some land, the parks department would try to buy the land next to the school for park development. This way both the parks and the schools benefit from each other. The parks department would sometimes build tennis courts or a gym on the school's property, but the school must pay the utility bill as the city maintains the grounds.

The next speaker, Jim Fisher, Executive Director of the North Jeffco Parks and Recreation District in Arvada, Colorado started out with a question for the group to think about: "In a brick wall, does the mortar hold the bricks together or does it hold them apart?" He then told how the Arvada Parks and Recreation Department was a special independent district such as a school district. They receive their money from taxes and bonds because they are a special district.

The last speaker, Mr. Don Wendell, Recreation Superintendent of Parks and Recreation for the City of Plano, Texas, talked about the City of Plano. The City of Plano's staff attended a workshop in 1969 and got the idea of the city and school joint agreements of their assets. The city has two indoor pools which the public can use. One is at a neighborhood high school; the other is at a senior high school. The schools lease the pools to the city for \$10.00 per month and the schools and city both share the cost of maintaining the pools. The schools also have gyms which the city is allowed to use following the same type of payment. The parent-teacher organization wanted some playground equipment so the city made them a deal--if the school would buy the equipment the city would install it on school property and maintain it.

## DESIGN FACTORS AND THE COST OF LANDSCAPE MAINTENANCE

Bill Thornton  
David Pinkus

The objective of this session was to provide an understanding of maintenance bidding procedures, influencing factors, and how design affects the cost of landscape maintenance.

Park managers may be able to lower park maintenance cost by contracting the work with a landscaping firm. Extra cost of in-house maintenance has prompted many managers to seek help from landscaping firms. Employee benefits, equipment storage, equipment repair, supervision, gas, and chemical treatment are sometimes overlooked when estimating the cost of park maintenance.

Factors to be considered when estimating the cost of landscape maintenance are as follows:

| DIRECT COSTS    |                |                 |
|-----------------|----------------|-----------------|
| LABOR           | MATERIALS      | EQUIPMENT       |
| Labor Burden    | Fertilizers    | Truck & Trailer |
| Insurance       | Chemicals      | Mowers          |
| Payroll Taxes   | Seasonal Color | Power Tools     |
| Fringe Benefits |                |                 |
| Training        |                |                 |
| Travel          |                |                 |

### INDIRECT COSTS

Salaries  
Supplies  
Insurance  
Hiring  
Recruiting  
Accounting  
Etc.

The manner in which the landscape is designed greatly influences the final cost of landscape maintenance. The time spent, equipment used, and the number of employees needed changes with every landscape plan. Through design or redesign, the park manager may make more efficient use of his budget. The speaker gave numerous examples of design changes which affect maintenance cost. The placement and choice

of plant materials, sidewalks, and irrigation equipment may reduce the total landscape maintenance cost by thousands of dollars annually. During cost comparison grass proved far more cost effective than ground cover.

## BUGS, BUGS, AND BUGS, TOO

Bob King

There are four purposes to biological control of insects. First, to make horticulturalists and grounds managers aware of an alternative to using a continuing spray program for insect control on perennial and ornamental plantings, particularly for those managers with budgetary and liability considerations; secondly, to provide a basic understanding of the various commercially available insect predators and how they control insect pests. A third purpose of biological control is making approximate cost comparisons of biological control versus pesticide use. The fourth consideration is how public relations can be enhanced through publicly announcing the use of biological controls.

This is not advocating the replacement of insecticides with biological control--the need for insecticides exists. Situations when an insecticide is indicated are when severe infestations hit a particular location, when an insect pest has no natural predators, and when an interiorscape has pests. Biological controls can be use on trees, shrubs, and annual flowers--wherever a pest is present in large numbers. Certain predators, such as ladybugs, praying mantis and lacewings can be used in greenhouses during winter months. The key to effectiveness here is to provide a good supply of predators prior to the development of a pest infestation.

There are commercially available insect predators. They are the Convergent Ladybeetle, or ladybug; Green Lacewing, and Chinese Praying Mantis.

The Convergent Ladybeetle is the most common of thirty-seven species of ladybeetle in North America. They are all predatory, feeding on soft-bodied insects, eggs and small larvae including these horticultural pests--aphids, scale insects, thrips, mealybugs, and leafhoppers. During the larval stage it resembles a small (approximately 3/8") black alligator with six legs and orange spots. It will consume hundreds of soft-bodied insects. After one week in the pupal stage, the young adult beetle emerges. As an adult, ladybugs will consume several thousands of aphids and other insects, and lay up to 1,500 eggs in small clusters. They feed during the day, and go dormant at night. They will not leave the infested area while quantities of pests are there to be consumed. They will last five months per application, and five generations may hatch in a single season, after a three to four-week gestation period. They will overwinter in moderate climates. Diapause, a natural resting period during the winter months can be controlled with chemical additives.

The Green Lacewing is also known as the aphid lion. They feed on almost any insect pest in the garden including aphids, spider mites, leafhoppers, thrips, caterpillars, and white flies. The larvae, not the adult lacewing, is the predator. Larvae feed for two to three weeks before spinning a cocoon and emerging as an adult five days later. During summer months the lacewing goes through its life cycle in about a month and can produce several generations in a growing season. Lacewings are shipped as eggs, and then held two to three days until hatching. They are then dispersed to the needed areas, and will stay in an area as long as food and cover is available. Lacewings are the most highly recommended by specialists.

The Chinese Praying Mantis is another natural predator that will eat different pests as it grows. As young mantises they eat aphids, leafhoppers, mosquitoes, small caterpillars, and just about any small insect. As adults they graduate to eating beetles, crickets, grasshoppers, tent caterpillars and other large insects. Mantises, however, tend to feed indiscriminately, and cannot be depended upon to eliminate a particular pest. They are sold in egg cases containing from fifty to two hundred eggs, with a 75% hatching rate. They may grow up to five inches long. Although other insect predators are used and sold for agricultural purposes, the three predators described above are the most useful in horticultural areas.

In comparing costs between biological controls and insecticides, consider labor alone. Every manager has an idea of the hourly rate of individuals trained to spray chemicals. Assume that for safety reasons spraying operations in greenhouses and in the field are done by a two-man team. Several landscape maintenance operations and greenhouse operations in the Tulsa area were asked how often during the growing season they sprayed annuals alone. The response in both cases was weekly or bi-weekly. At \$5.00/hour per man, figuring an eight hour day, including set-up and cleaning, that equates to \$80.00 in labor, per day. At \$7.00/hour per man the cost would be \$112.00. If an operation were small enough to require one day per week spraying the cost in a five month growing season, labor alone would run \$1,600 to \$2,240. For the labor cost per month spray you could purchase 385,000 ladybeetles, and over 45,000 lacewings each month to feed on your insect pests. In reality, the number of ladybeetles and lacewings needed would be considerably less without considering the multiple generations your first spreading of these predators could provide. The bottom line is that a tight budget can handle biological controls easier than a pesticide spray program with no accidents or injuries.

Public relations can be enhanced with the use of biological controls. At one time in the Tulsa area, there was a severe infestation of aphids. The newspapers and television stations were calling it an invasion. The aphids were so thick on plant material they were

literally dripping honeydew on the ground and sidewalks of an exclusive shopping center. Spraying operations were contraindicated because of the large number of shoppers and automobiles in the area. Two gallons of ladybeetles were used in the application procedure. Local TV stations picked up the story, as did area newspapers. There was a three minute spot on the evening news and CNN carried the story on their network for six minutes showing it world-wide. Because of this media exposure, at the next application, city commissioners, and TV reporters joined in the application of ladybeetles. Frequent calls asking for information were received, and enhanced the center's image as being environmentally and safety conscious.

While biological control is not a total replacement for insecticides, it is a viable alternative for managers who increasingly have budgetary and liability considerations with which to deal. Commercially available insect predators, the Convergent Ladybeetle, Green Lacewing, and Chinese Praying Mantis can go a long way to help alleviate the problem. The savings in labor costs alone make biological pest control worth considering.

## CURRENT AND EMERGING CONCEPTS IN ARBORETUM PLANNING AND DESIGN

Sadik C. Artunc

What is an arboretum? What is the purpose of an arboretum, and how do you design an arboretum? These are a few of the questions Mr. Artunc discussed using a case study of the New Orleans City Park Arboretum as an example.

An arboretum can be defined using several terms--each term adding a new element into the meaning. These are as follows:

- A tree place
- Site museum
- A plant refuge
- An amenity
- A living museum where rare plants are grown.

The purpose of an arboretum is for the collection and display of plants, research of rare plants and their propagation, and for recreation and education; recreation being the last function of the arboretum.

Arboretums also have specific ways in which they are organized. These are:

- Taxonomically
- Geographically
- Aesthetically
- By species habitat
- Other which includes rose gardens, herbs and Japanese gardens.

The planning and design of an arboretum ties present, past and future. Many aspects were presented in outline form and are as follows:

- Colloborative Effort
  - 1. Many individuals
  - 2. Many groups of people
  - 3. Many disciplines

- Experience
  - 1. Anticipation
  - 2. Travel to the site
  - 3. Travel back
  - 4. Recollection

#### Structure of recreational experience

1. Familiarization
2. Arrival
3. Parking
4. Entry (should be a pleasant front yard image)
5. Orientation (next to exhibits)
6. Transition (resting and picnicing)
7. Exhibits and displays
8. Operations

#### Image

1. Related to purpose (result of)
2. Design
3. Program and services
4. Operation and maintenance

#### Operation and Maintenance

1. Ease (water and seating increases ease of use)
2. Control (major entrance to control users)
3. Safety (material and design for handicapped)
4. Security (walks wide enough for vehicles)
5. Funding (relies on private funding)

#### Access and Location

1. Proximity to supporting institutions
2. Proximity to the public being served
3. Ease of access
4. Mode of access
5. Perceived image of the site location
6. Suitability of the site's physical character
7. Site interest, challenges, and limitations

## WAGS AND SWAGS: COST ESTIMATING FOR CONTRACTS

Kit Barkan, Randolph Williford

Mr. Williford pointed out that at first you must have some kind of basics for analysis like historical data. This may consist of a time sheet. If you don't have anything, find books with standards in them for guidelines.

The next thing is to adjust the cost which is added cost plus the fees and additional project cost. To find out what the project will cost, you must go back and look at the past projects you have done. First you take 38% of the top for overhead adjustments and then 50% comes from the consultant's construction docking. The last 25% comes from the fees. This will give the consultant 50%, but they will spend 80% to do over-running or over-estimating. Having these numbers to work with creates a winning situation.

After the adjustment cost you must do research of your past files, but you may use other people's files as a grade. Some of the research you must do is data of contract specs which you use also as a grade to get competitive prices. Next you must look at an estimate the way a contractor would. You need to look at the contract and see if there is something that needs to be claimed because it may be misinterpreted and cost you more money.

There are two forms of bad bids a contractor may give you. One is to bid low. A change order will be required to bring it up. The other is to bid outrageously high. That will cause you to lose the project. Other things to look at are contracts which fall into three categories: Good, bad and shrewd. The good contractor will bend over backwards to do anything you ask him to do. The bad contractor has no pride or quality in his work and can't deliver the goods in the end. Finally, the shrewd contractor is neither good nor bad, but lists all the items he proposes to be in the contract into four columns. These columns are sometimes clear and sometimes gray. The clear columns are well-defined and both parties agree upon them. The gray areas are not so clear and the parties may have trouble agreeing upon them and have to compromise. After the shrewd contractor makes his columns he adds up all of them and gives his bid in between the two numbers. This will let him underbid the good contractor to get the project knowing he will recover his money in the end.

These are just a few of the things you must look for when estimating a contract to keep from doing change orders.

## THE BOSS IS ALWAYS RIGHT?

Eddie Hueston

This was a humorous look at serious matters with actors from the Austin and Dallas Parks and Recreation Departments. The cast (by city) consisted of Bunny Bennett, Dick Finnegan, Sarah Macias and Mike Von Wupperfeld of Austin; Jacklyn Kayne, Bonnie Lutz, Milton Martin and Richard Zavala of Dallas.

### The Episodes:

"The Case of the Misdirected Sprayer" - A communications breakdown leads to the sterilization of a median.

"No Problems in Parks and Recreation" - Two review situations in which a supervisor made contracts with his employees; one a loudmouth, the other with a perpetual tardiness problem. They lived up to their contracts, but the director wasn't informed the contracts were made.

"Implied Sexual Harrassment" - Two supervisors sexually harrass an employee who has risen quickly through the ranks. Her supervisor shrugs off the charge because he was poker buddies with the two supervisors in question.

"Starting on the Right Foot; or Don't Get Lost Getting Off the Starting Block" - Asking wrong, unfair, and somewhat questions prevents an applicant from getting a position.

"The Panel" - A panel of three supervisors interviews two applicants for a forestry crew chief position. Inconsistent in their techniques, the first panel was professionally correct, the second "led the witness".

"The Pre-Termination Interview" - In the first part, an employee is railroaded into quitting because of a supervisor's zealous nature. In the second part, documentation was on hand and available, identifying the problem straightaway.

## PUBLIC AWARENESS THROUGH THE ART OF VISUAL COMMUNICATIONS

Dave Loughridge, Francisco Philibert  
Mickey Massey, Pat Boothe

Mr. Philibert reminded those in attendance that ours is quickly becoming an informational society and that we must learn the skills required to make use of the current technology.

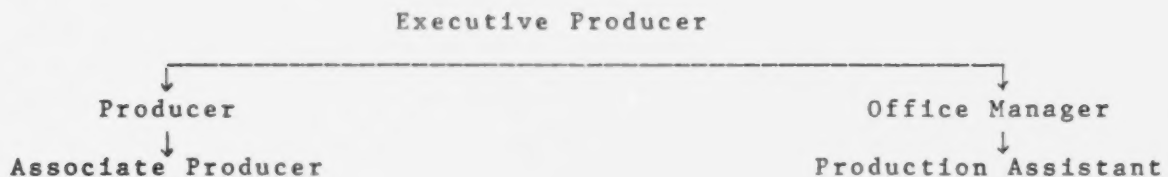
The definition of "visual communication" is intentionally vague because its applications and techniques are so widespread and so quickly changing. Traditionally, visual communication has been considered to be the use of aids such as motion pictures, slides, charts and other devices involving the sense of sight. Today's applications include computer graphics, VCR's, video cameras, television, multiple projection slide systems and even multi-media communication systems. Indeed, the technology in this field is changing so quickly it is impossible to imagine what techniques will be used tomorrow. Opportunities for the use of visual communication are also unlimited and the techniques of application must be tailored to each specific need.

The City of Richardson, Texas has been innovative in the use of Visual Communication as a purposeful tool within the environment of the municipal government. The intended purpose is two-fold in that this application really makes a difference in the lives of the people and in the life of the community by allowing and encouraging community participation through quality television programming. This is a real example of people involved with people.

The Visual Communications Department of Richardson is only two years old but during that time great strides have been attained and its acceptance from the community at large and within the municipal structure has been overwhelmingly positive.

Mr. Philibert began his duties as a one-man department in a small office with a single video camera. Using a borrowed electronic transfer (projection) system his first presentation to the City Council involved a major overview of the City capital account. This first presentation caught the imagination of the Council members and they quickly endorsed the project of the Citizens Information Television and even funded the purchase of the borrowed electronic transfer system. It was easily recognized that this could be used as a tool in solving the problem of lack of communication from the city to the community.

Richardson's Citizens Information Television is funded through the city's General Fund. Its formal structure is one of horizontal organization:



Each element within the structure is allowed to operate freely within their own horizontal leeway. CITV reports directly to the City Manager's office.

Citizens Information Television recognizes the potential of a wide variety of equipment and has employed the following equipment for various presentations:

CITV's standard camera is a 3/4" format video camera and state-of-the-art electronic projection system. At times 1/2" (home video quality) or 1" and 2" (TV Station quality) formats have been used. Mr. Philibert mentioned that slide presentations are still a viable means of visual communication and that dual or multi-projection presentations are especially effective. It is even possible to transfer slides to video. The significance of computer graphics is also recognized and CITV has had opportunity to combine computer graphics with video. This technique was demonstrated in a video presentation prepared through the Parks and Recreation Department. Mickey Massey operated an Auto-Cad system to work through the steps of planning a deck for a municipal Fire Station. This evolved from site layout to mass and style determination to construction details and techniques. Pat Boothe, who oversaw the actual construction of the deck pointed out the value in this application. The ability to work out all the "kinks" with the designer before construction began was a valuable time saving tool.

Other computer applications cited by Mr. Philibert included Solar System Zooming. This allows mapping at any scale, from Land Trak systems to a concentrated single unit with which one can study impact conditions and other intricate details.

He also pointed out the value in the establishment of computer data bases. This allows inter-departmental planning and communication and gives employees more opportunity to leverage their minds and their production.

Not only does the video arena accommodate public information programs but it can also be utilized in internal municipal programs. City Ordinance revisions in 1986 allowed the use of video in the areas of DWI enforcement and environmental health. The Food Service Sanitation Program used video technology to ensure sanitation standards.

The city regularly used CITV as a planning update for the public. The city thinks that CITV is the best tool to inform people of scheduled hearings and planning issues and zonal changes. Other informational programs have included a mobility update through the Department of Transportation, Emergency Training update, Parks and Recreation programs, and various cost-benefit studies of various projects.

Mr. Philibert feels that his biggest challenge is quality production on a very limited budget. By using the best equipment afforded, such as the electronic transfer system, CITV is able to retain a high degree of quality in production.

In conclusion, Mr. Philibert emphasized that much has been achieved through CITV in two short years. He has been able to expand from his basic equipment of one camera to additional video equipment and a state-of-the-art electronic transfer system. His office, although still quite small, has expanded from one person to four additional staff members. CITV has also acquired a vehicle (a used ambulance) with which they can more easily transport their equipment.

The success of the CITV Project probably lies in the fact that information is presented in simple, matter-of-fact and unbiased terms so the viewer is allowed to make his own decision on the merits of the subject being presented.

Mr. Philibert stressed the importance of a positive posture within this type of organization. He suggests that people interested or involved in a program such as this should:

1. Keep an open mind
2. Ask questions
3. Use a lot of imagination
4. Operate on principle, not precedence.

CITV and the City of Richardson recognizes that reaching a few voters has a big impact. In addition to their television cable exposure, CITV uses local public libraries as an outlet for their video production. As a one-to-one approach, citizens are encouraged to call-in and request specific program scheduling.

Another application currently under consideration is the use of video in departmental training.

(NOTE: The response to this presentation was exciting. In fact, after the session had concluded many attendees asked so many questions, the presenting team had difficulty in removing their equipment and the next session was delayed.)

## BERMUDAGRASS: ITS ESTABLISHMENT AND MAINTENANCE

Larry Noblin

The seminar centered around the maintenance of lawns and playfields (primarily bermudagrass) using Roundup in combination with other chemicals. Roundup, as discussed by Larry Noblin, is a leading herbicide because of its characteristics: broad spectrum of effectiveness, systemic activity in killing the targeted weeds, no residue of the chemical left in the soil after application, and its variety of nonselective and selective uses. Roundup's nonselective uses are its more "traditional" applications: trimming, edging, and renovation of lawns before sodding. These uses involve higher concentrations of Roundup, and kill grasses and broadleaf weeds alike. The selective uses, however, require much more skill and caution in the mixing and application. Light and medium maintenance lawn areas can be selectively treated to curb weed growth, but heavy duty places such as golf courses must be treated by more traditional methods. These utilizations, winter and summer weed control, can only be done on bermudagrass because of its tolerance to Roundup in low dosages. In winter, the bermudagrass should be dormant so it does not absorb any more of the chemical than it has to, while the glyphosate salts go to work on the weaker winter weeds. Wintertime concentration for selective weed control ranges from 16-32 ounces per acre plus 1/2% surfactant. When sprayed from a boom sprayer at 20-25 GPM, a thorough even coverage is obtained. However, the lower temperatures may slow the kill time for 4-6 weeks. Actually, bermudagrass is injured worse by a heavy winter spraying than a lighter dose sprayed during the spring greenup. The grass has the ability to recover quickly from any slight damage incurred at the first of spring. For selective summertime uses, start in May after the spring greenup and use the volume mixes recommended for winter control mentioned earlier. Slight discoloring should occur, but this will only be temporary if the lawn is well established. However, repeat applications are not recommended, as are spraying on young lawns. Most broadleaf weeds are not damaged at all by Roundup using these applications in the summer.

For longer term weed and grass control, Mr. Noblin suggested a combination of Roundup with either Surflan, Simazine, or Oust, plus surfactant. The pre-emergent herbicides will keep down the weeds after the Roundup kills the existing ones.

## MOUNTED PARK PATROLS AND PUBLIC PARK LAW ENFORCEMENT

Donna Pond-Watson, Jerry Wimpie  
Officer Dennis Larson, Sgt. Troy Rogers

The purpose of this session was to discuss the use of and effectiveness of a mounted park patrol, the training and selection procedures, and tips on safety within a park with or without a patrol.

In 1983 the Tulsa Parks and Recreation Department was able to develop the already established Mohawk Park located on 2700-2800 acres of land northwest of town. The problem was the park was being used as a place to loiter and was a very unpleasant place for the general public.

When developing this park the question was: How are they going to make the park safe and secure? After discussing several alternatives it was decided that mounted patrols would be the best, especially using police officers.

The program was built up to twelve horses and tack using donations from the public and eventually became self-supporting. The officers were used two in one shift that overlapped at some point of time forming four in a shift and later would go back to two on duty. Due to budget cuts this has now been cut to one overlapping into two then back to one again.

The officers work in the program on a volunteer basis and do their shifts on their days off. They are paid time and a half. These shifts are on the weekends, holidays, and any occasion a large crowd is expected in the park.

Within two years into the program the loiterers had been cleaned out of the park and it was safe to use the park.

Officers train twice a month, four hours each time. The horses are trained intensively for crowd control using barrels, people, and other obstacles. The officers usually have a favorite horse they train with and this builds a bond between horse and rider that makes it easier to control the horse.

Before going out on patrols the officers inspect both horse and equipment carefully. An English saddle is used because it is light and has a neat, compact style. The radios are kept in side pockets located on the outside of the saddle.

There are many advantages to using mounted patrols and a very important one was the access the horse has both through covering long

distances and in crowd control. A mounted officer can cut through a crowd much more quickly than one on foot.

The added height is very good, it gives the officer an excellent view of what is going on around him. And probably most importantly is the fact that the public loves horses and will be more likely to interact with an officer on horseback than otherwise.

When setting up a mounted program of your own, Ms. Pond-Watson stressed many important points. First, even though it is easy to get horses through donations one must be selective because some donated horses are problem horses that the owners cannot handle. Secondly, a horse should be middle-aged, they are much easier to train at this time. And finally, she feels it is a good idea to set a criteria down and follow it; know what kind of horse, height and color you want.

Mr. Wimpee, who is involved in the Park Law Enforcement Association, stressed the point that when dealing with park safety and security one should not play the economics game, especially with mounted patrols--the horses are worth the investment.

The agency with the authority should provide the security. This is a general rule. A park is a program area and those in charge of the park should control the security.

Why be concerned with security? Because the people come to the park and expect some form of security and this can be done through rules and regulations.

Mr. Wimpee cited three types of park users. One group is those who are capable of understanding rules and regulations through the usage of signs. Another is those who comply to the rules and regulations because of the possible threat of fines or jail, but they must see the threat and it should be backed by a capable officer. The third group is those who will not comply and who came to the park specifically for some type of criminal activity. The only thing that can be done about this is surveillance of some kind.

When concerned with safety, some kind of surveillance is necessary. If one is unable to do so then the building or park should not be built. Public safety will determine the success of parks and recreation. If bad people are in the parks then people will think parks are bad because they bring in this type of person.

On a final note, Mr. Wimpee stressed the importance of public sentiment. If you can get the public behind you then you and your park or program will succeed.

PLANT A TREE TODAY AND HAVE A BEAUTIFUL DAY TOMORROW

Dr. Carl Whitcomb, Russell Studebaker

Dr. Whitcomb, famous author of Know It and Grow It, delivered a witty and informative talk on two rather neglected aspects of trees: problems with trees in a more urban environment, and how a tree is grown affects its performance in the field.

Initially, the seminar centered around the conflict between trees and the urban environment, those problems being soil compaction, impervious cover, and salts in the water. Dr. Whitcomb concentrated on the problems caused by the introduction of pavement around trees and other plants. Trees and pavement have never mixed very gracefully, one invariably damaging the other over time. If any of a tree's root zone is covered with impervious materials, dieback in the crown is inevitable. Then either the death of the tree is only a matter of time, or the tree recovers to some extent but in a weakened condition. Or the tree exacts revenge and starts heaving the pavement in places. However, a tree introduced into a paved environment will fare much better. It may have a shorter life span and not reach mature size, but it will be as healthy as its environment will allow. Needless to say, the less paving poured around any tree, the healthier the tree will be.

The second topic Dr. Whitcomb discussed addressed how a tree is grown affects its later performance in the field. First, few of the currently utilized methods for growing or obtaining trees is really acceptable in terms of producing trees that are not set back for a long period of time due to shock. Balled and burlapped trees only have a 3-15% of the original root ball after they have been dug, and recovery from this trauma is slow at best. Containerized trees also have problems because direct exposure to hot sunlight on the containers kills all the fragile root tips and hairs on the exposed side of the container. Dr. Whitcomb also pointed out that trees cultured in containers are to grow roots out into their new environments once they have become root-bound and their roots wrapped around the interior of the pot. This results in a shorter life span as well as weaker wood.

Anytime a tree is stressed, the root system is damaged first, which sets off a chain reaction of dieback in the other parts of the tree. Therefore, production of larger root masses should be the growers prime concern because it simply produces a larger and more vigorous tree which will withstand more stresses. More roots can be grown by forced root branching, much like a more dense crown can be forced by trimming: cut back the root tips to force more lateral branching along the length of the root. This premise lead Dr. Whit-

comb to introduce the air-induced root pruning method. Plants are propagated in a fiber-based pot. Once the root tips grow through the fiber, exposure to the air kills the tips. This produces lateral branching, thus growing more roots.

This discovery, in turn, allowed the development of two new types of containers which help grow better root systems. The first was a container comprised of a plastic fiber "bag" that posed three distinct advantages: the container did not rot as seen with cardboard prototypes, it encouraged the air-induced root pruning method, and the seams in the container trapped roots that were wrapping around the interior of the pot. The second type of container seemed to be a typical plastic pot with serrated indentations into the interior. This, like the seams in the fiber bag, prevented the roots from wrapping around the inside, thus preventing the plant from being root-bound. The plant then can send roots out into its new environment more quickly and overcome shock. Both of these containers should be coming into more widespread commercial use, according to Dr. Whitcomb.

## BEAUTIFY THE SOUTHWEST

Celeste Hoehne, Gary Fisher

As park and recreation professionals, we all are aware of the need for beauty, especially within an urban environment. However, when beautification is mentioned, most people think strictly about planting trees and possibly a few flowers, but beautification is a far more detailed and encompassing area.

Throughout the plains states and the entire Southwest, one of the most devastating things we are facing is desertification--the loss of our topsoil and the depletion of its nutrients. We continually use our topsoil in endeavors that are not fit for our area.

Prairie grasses once thrived throughout the entire region and their root systems held the topsoil in place. Grasses are recommended as replacement plantings as are wildflowers and native trees. Reasons for planting this type of vegetation include: native plants require less care which can help to lower some costs, they are more inclined to accept the soil conditions, there are fewer disease-related problems, and they also have a tendency to produce better leaves and more vigorous root systems so they flourish more naturally.

The Keep Texas Beautiful organization is not only concerned with plantings, but also with the one problem that the entire nation is plagued with--litter. Litter is the debris or solid waste that is strewn out along the highways that might have been pitched in the dumpster once, but blew out and never made it to the sanitary landfill.

The average litterer is a male, 18-34 years old who drives a pickup. In 1985-86, litter cost Texas taxpayers \$24 million just to pick up. This past year, Texas has reduced the litter along the highways by 29% and the cost has only risen 1%--that is better than any place in the nation.

Most people act as they live. Today's litter problem is a reflection of the offender's care and consideration for himself and for others. If you feel "care and consideration" got lost in the swell of the "Me" generation, you are most certainly right! Proof is along our roadways, blowing in our street, and lining our beaches. Only rare places exist where a person can "get away from it all" and not find an ugly reminder of the true reality of today's society. The people who manage our parks, recreational facilities, and wilderness areas know only too well the depth of the problem.

The national Keep America Beautiful, and the Keep Texas Beautiful programs are giant leaps towards changing the attitudes of offenders from the "Me" to the "We" mode of thinking. These programs work best with a coordinated effort from local leaders of all sectors--the community, the government, the schools, and social and civic organizations. One such successful effort in the last year was from Muenster, Texas, a community of 1,400 located about 11 miles west of Gainesville in north central Texas.

Being predominately German Catholic, Muenster has two things which could be expected to cause litter in any area--beer and children. Hosting the first successful "wet/dry" election when local option became law in Texas, Muenster now has three major beer distributors using the town as their base of operations in two states. Along with beverage containers as prime contributors to litter along the roadways, fast food operation, catering to the "Me" society on the run, has advertising blowing across the amber waves of grain as far as the eye can see. Things were ripe for an organized and proven method to attack the problem. OPERATION: CLEAN SWEEP was the local push coordinated with the Keep Texas Beautiful program of "Don't Mess with Texas".

OPERATION: CLEAN SWEEP was the end result of the KTB promotion contest which offered prize money for towns who put together successful efforts to put a dent in the litter problems in their area. With litter being present and reminding everyone of the problem daily as they walked the streets in Muenster, most residents were frustrated at past failed attempts to just pick up the litter in small annual campaigns, only to find it back the following day. While OCS was successful, it does not mean that litter cannot be found. Many of the same problems exist now as they did then, but with a systematic approach from KTB, along with the incentive program, and the immense help from their staff and the Highway Department, we can slowly begin to educate and change the attitude from the "Me" to the "We". And where you cannot educate, you can prosecute.

Most small towns are strapped for people who will volunteer to help the community. As a result, to expect them to design a campaign with enough diversity to tackle the litter problem is a bit unrealistic. With the KTB contest and guidelines, such a program is at the hands of anyone remotely interested in working on the litter problem in the local area. With fine tuning for the local area, a program such as OPERATION: CLEAN SWEEP is only as far away as the desire to get involved.

Getting the people involved can be achieved a number of ways. With OCS it was decided to make the organization an "organization of organizations". The reason was to use peer pressure, the art of making yourself look bigger than you are, and the basic draw which

some need to be involved in what is happening. Members met with each local group and provided films, support brochures, and the plan of attack. They also set a calendar which kept something happening at all weeks of the campaign, with major emphasis weeks designated about one every month. Each big "push" was named something catchy, and this was radiated in the local press with front page stories. While the KTB idea is to educate in schools, have public awareness about the problem, and do cleanups, all interrelate. The schools helped publicize with poster and essay contests. The schools also helped pick up litter and express disgust with what they found by way of the local paper and radio, and the groups lent their reputation, as well as their people, to organize and work for the effort. As a result, no person in Muenster could be found who did not know about the effort that CLEAN SWEEP was undertaking. Goal #1 was met.

The Cleanup campaign needed some boost to put the light on just how bad the trash problem really was. OCS had an idea to combine the trash pickup with promotional considerations, and a measure of what trash was really out in the trenches. Muenster decided to pay on a "per pound" basis for all trash. The idea was certainly different, and in a town where aluminum can recycling was already attracting the attention of many, the thought of payment for anything which was litter sparked those who liked money. This turned out to be a promotional bonanza, for when each load was brought into town, it was paraded down Main Street to the local scales, and each group was eager to see who was ahead of each other for the grand prize. When the tally was in, the fact that Muenster collected over 1,000 lbs. of trash per mile startled everyone.

## COMPUTER AIDED GOLF COURSE DESIGN

Charles Arrington

This session demonstrated the many uses a computer has, or is capable of having with the proper software, when developing a golf course.

In his case study, Mr. Arrington developed a way to show three-dimensional images on a computer. He found that this three-dimensional view gave a better idea of the lay of the land and the position of the holes, sand pits, trees, water, and slope of the land.

He presented a slide show illustrating his use of taking a very large piece of land and concentrating on very small areas that enable the developer, designer, and contractor to better understand the course in a very detailed way.

An area near Austin, Texas was chosen as his case study, totaling 800 acres. Using an Intergraph computer with digital terrain and hidden line removal software he was able to view this area. The Intergraph computer is a two screen computer; one side being black and white and the other color. This computer was capable of dividing the area into several divisions.

When Mr. Arrington wanted to decide on the placing of the course he had to consider water quality, slope analysis, drainage analysis, and vegetation. The computer was capable of dividing the area where the potential course would be into different areas using a color coding system. This made it easier for one to quickly eliminate the poorer golf course areas.

Mr. Arrington feels this computer and its software has a real future, but at this time it is very expensive.

## WILDFLOWER SEEDING ALONG TEXAS HIGHWAYS

Craig Steffens

In considering the use of plant material along roadways, aesthetics and function play important roles. However, the most critical consideration today, of course, is economics. Included in economics is the initial cost of the plant material but the highest costs involve the maintenance of highway right-of-ways. Much of the expense is related to the transfer of manpower and equipment to the site.

Texas' Wildflower Seeding Program has found a niche to fill under the guise of economic pressure. The program is not particularly inexpensive during planning and establishment but on a long-term basis these areas lend themselves to reduced maintenance costs. In fact, the success of wildflower plantings is dependent upon a curtailment of traditional mowing practices in order to ensure the process of natural reseeding.

During the planning process for wildflower seeding, the staff should learn the environmental conditions of the site. To increase the chances of success, a small test planting of a wide variety of species is recommended. During the following season of bloom observation should be made of which species are most prolific in that particular environment and the conditions of each success should be noted. After studying this test plot, a more logical decision can be made about which species will be best suited to those site conditions.

Using a mix is crucial because this allows for a natural adjustment to changing conditions. Because of climatic fluctuations within each season, there may be some years that one or two species do not seem to have a high bloom rate. Then, because of perhaps subtle changes in conditions, they may flourish. Therefore, when selecting a mix, a wide variety of conditions should be considered. Other important characteristics to be taken into account during the selection/planning process include color, blooming time (and season) and plant height. Colors should be selected to be complementary to one another, whether you plan for a monochromatic color scheme or a vibrant combination of hues. Bloom succession should be thoroughly researched in order to select a successful seed mix. In order to plan for the color scheme you will need to know which flowers will be blooming at the same time. Height is an important consideration during the planning stage because it is often advantageous to cover fading blooms while allowing the natural reseeding process to occur and this can be easily done by an over-planting of a taller species.

Mr. Steffans encourages those local agencies who are responsible for maintaining highway right-of-ways and parkways to think in terms of a Vegetation Management System, a shift from maintenance to management. In order to ensure natural reseeding, mowing of the area must be prohibited until the seed is set. Mr. Steffans recommends that mowing not take place during the months of March through July. Economically, this is beneficial because equipment costs are decreased in a traditionally high use season and natural reseeding is much less expensive than manual/machine seeding.

Mr. Steffans suggests the agency prioritize roadways within its district and devise management levels to best meet the particular needs of each level of priority. He further suggests that a distinction be made between "Travel Ways" and right-of-ways. Travel ways are those narrow strips of land found adjacent to the roadways. These areas should be maintained so as to not impede traffic safety or not allow grass encroachment into the pavement. The management program of this critical area will most likely involve the use of herbicides. (Mr. Steffans also noted the success of herbicide use is based on proper timing of application.)

Right-of-ways should be managed as transition areas. The management program for this strip of land should allow for blending with surroundings whether it be of urban or rural character. Right-of-ways which are of rough or rocky terrain are especially suited for wildflower areas or natural growth areas.

Anytime a management program of a public area is changed from the traditional method it would be wise to educate the public. The agency should let the public know what is being changed, why it is being changed and what they might expect during the transition period. When the public understands what is taking place it is much easier for them to accept the change. This, in turn, saves a lot of hassle for the agency.

Planting and harvesting of wildflower seeds require a few special techniques. In planting, the key factor is soil-seed contact. Contrary to popular believe, wildflower plantings do require an adequate amount of water and supplemental watering is required if adequate natural precipitation does not occur.

Wildflower seed varies greatly by both size and weight and this makes it difficult to distribute evenly. The seeding process may be manual or by seed drill. If seeding is done by hand it is helpful to combine the seed mixture with sand. If the project site is suited to mechanized seeding there are drills available which feature computerized sorting of seed.

Harvesting of wildflower seed also lends itself to a wide range of methods. It can be accomplished by simple manual harvest or by

mechanized vacuum harvest. When a vacuum harvester is used only the mature seed is released. Non-mature seed is allowed to remain on the plant until it is ready for harvest. After harvest the seed is cleaned and stored.

The optimum harvest technique is strip removal. After the seed has set, a sod-remover is used to scrape the soil in which the wildflowers are growing. Then this strip of soil, including plant material, roots, and seed is transported to another site for planting. This method has had a high success rate for the state highway department.

Another method of harvest/planting often used involves the collection and transfer of wildflower "hay" from one site to another.

Wildflower seed is rather expensive but the industry is beginning to make strides in reducing the cost. Some suppliers have been able to adapt some species to row-crop production and methods such as this will increase the supply, make the harvest process more efficient and eventually reduce the cost.

Mr. Steffans reminded his audience that wildflower seeding may not lend itself to every situation along the highways and parkways but they do lend themselves to either active or passive sites. Agencies should not approach wildflower seeding as an easy alternative to a high maintenance program. A successful wildflower program involves careful investigation and planning prior to planting. Planting and harvesting of seed may involve painstaking procedures. A management program is required to maintain the planted areas but if the agency is willing to meet these conditions they will be rewarded by many seasons of vibrant colors and a long-term decrease in maintenance intensity.

A DICHOTOMOUS HORTICULTURAL CONCEPT--  
DON'T MESS AROUND WITH MOTHER NATURE

Marihelen Kamp, Bill McLaughlin

Woody plants and wildflowers are ideal for use in landscapes, especially in parks and other public areas. Woody plants and shrubs provide shade, while wildflowers add even more color and contrast.

Many native plants, some that you may not have considered as native, are used as the backbone of most landscapes. Live Oak, Red Oak, Texas Red Oak, Shumardii Oak, and Burr Oak can all be included in a southwest landscape. Desert Willow, Hackberry, Yaupon Holly, Elms, and Pecans are also useful, but problems can arise. Hackberry trees sometimes contain mistletoe or have galls on the leaves, but should still be used. Redbuds also can develop problems, such as anthracnose in more humid areas, but it is an early bloomer, blooming in February. Pecans have insects and diseases that can attack, but the pecan still remains a good native tree.

Along with these natives, new natives are being collected, propagated, and introduced into the nursery industry. Kinckley Oak grows in alkaline soil and has leaves similar to holly leaves. Lacy Oaks resemble Live Oaks in shape, and are sometimes used as Live Oak replacements. Sierra Oaks are evergreen and will turn scarlet in the fall and maroon later on. This particular oak will withstand very cold conditions. Chinkapin Oaks have a yellow fall color and have distinguishing exfoliating bark characteristics. These could be used much more in landscapes. Maples, such as Big Tooth Maple in the Guadalupe Mountains, Cato Maple, Acatias, and Aguritas, which can be used to make jams and anesthetics, are also being produced.

Sumac propagate themselves by rhizomes. They do well in moist areas and have a brilliant fall color. Scarlet Sumac, Flame-Leaf Sumac, Evergreen Sumac, which is similar to Texas Mountain Laurel, Skunkbush with its toasted sesame seed smell, Texas Persimmon and its edible fruit, Leucophyllum which flowers shortly before it rains, and Texas Mountain Laurel with a grape popsicle smell which attracts people, are all interesting in landscapes in the southwest. Deciduous Yaupon Holly adds color in the winter with its orange berries. Mexican Buckeye can be used as a tree or shrub and will rival Redbuds. Mesquite can be utilized because of its thorns and resistance to drought. The Texas Pistache grows six to eight feet and has a scarlet red fall color to add to the landscape.

Junipers, especially One Seed Juniper, Rocky Mountain Juniper, and Ashe Juniper, can be used extensively without any serious disease or insect problems. Mexican Plums have color in the spring and fruit

in the fall. Vines, such as White Honeysuckle and Coral Honeysuckle, could be used more.

Along with the woody plant materials, wildflowers can be added to a landscape to create color and save tax dollars. In the Dallas area, a \$2.8 million budget cut occurred, which made maintenance of median areas near impossible. So, previous nontraditional areas for wildflowers, such as around buildings, museums, cemeteries, and medians, suddenly became wildflower sites. Sculpture mowing in a zig-zag pattern was done in the medians to enclose the flower area. This creativity pleased the citizens and the maintenance people because the flowers looked good and were more exciting to maintain. Signs to let people know about the wildflowers, such as, "Pardon Us! Wildflower Area-Making Seed for Next Spring and Saving Tax Dollars" or just "Texas Wildflowers" made people appreciate the flowers more because they knew that they were intentional. Wildflowers grow like weeds, but some are very beautiful, such as the Texas state flower, the Bluebonnet. A median full of bluebonnets would appeal to people more, especially Texans, much more than turf, which is costly to keep up.

Errors were also made in the process. First, other vegetation was in competition with the wildflowers. Rescue grass can completely cover bluebonnets. Second, many soil/seed mixtures would not work well together. No sophisticated seeder was used so when the wind blew, there was a "50 MPH potpourri mix" which created a weedy appearance. Third, another problem occurred near Love Field when the wildflowers attracted birds, hindering the airport's flights. Last, a group of poppies were admired by some older ladies so much that they decided to dig them up and take them home. However, although some problems have arisen, the beauty and money saving aspects associated with wildflowers far exceed the problems.

## SAFETY IN MUNICIPALITIES

Burck Tollett, Jim Hogan

Safety in municipalities is a goal all managers are striving to achieve, but as Mr. Hogan points out, there are no answers for everything. An item of main importance is to develop a safety program for the municipality. A program of this type is helpful in cost reduction.

A program must have the following elements:

### SAFETY

1. Worker's Compensation  
This results in high medical costs and also lost worker productivity.
  - a. 2 categories of injured workers are:
    1. Actually hurt
    2. Faking injury
2. Avoiding the problems
  - a. Monitor the situation
  - b. Monitor work activities
3. Steps to be taken after injury occurs
  - a. Monitor employee's progress while they are off
  - b. Ask questions to find out what happened
  - c. Ask questions to find out why it happened
  - d. Be fair to the employee and to yourself
  - e. Have documented safety meetings

### VEHICLE ACCIDENTS

4. Prevention
  - a. Have a driver's license check done on all employees at least once a year.
  - b. Train employees in defensive driving courses
5. Procedures to follow after an accident
  - a. Employee contact should be with the following only:
    1. Police
    2. Supervisor
    3. Safety director

#### LIABILITY

6. Prevention
  - a. Monitor situation
  - b. Inspect equipment regularly

#### INCENTIVES

7. Recognize your employees
  - a. Safety person of the month
  - b. Know what is going on

Mr. Hogan concluded by saying that usually as far as incentives are concerned, you will usually run out of time, money or enthusiasm first.

OTHER PRESENTATIONS NOT AVAILABLE FOR INCLUSION IN THIS REPORT

YOU BE THE CONSULTANT--PRIVATE/PUBLIC FACILITY PLANNING  
Tom Christensen, Terry Colgan

LOSS CONTROL THROUGH RISK MANAGEMENT  
James C. Kozlowski

PARK LAND AND FACILITIES CONSTRUCTION AND RENOVATION  
Richard Zavala, Paul Gooch, Bobby Sterrett, Weldon Flanery

PRODUCING AND MAINTAINING A BEAUTIFUL LANDSCAPE ON A LIMITED BUDGET  
Randy McFarlin, Jim Sindelar, Rick Parkins

CONTRACT SERVICES--AN ALTERNATIVE APPROACH  
Bill Thompson, Steve Hardin

ARE YOU WILLING TO TAKE THE RISK?  
Mike Von Wupperfeld, Lina Wintz

IRRIGATION'S TOMORROW IS HERE!  
Don L. Cooper

PRESENTATION BY DON OLSON  
Director, Parks and Recreation  
Houston, Texas